| Concept/Skill | Grade K | Grade 1 | Grade 2 | Grade 3 | Grade 4 | Grade 5 | Course 1 | Course 2 | Course 3 |
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| | | | | | | | | | |

| | Counting and Cardinality | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Number Sense | | | | | | | | | | | | |
| Know number names and the count sequence | K.CC.1, K.CC.2, K.CC.3 | | | | | | | | | | | |
| Count to tell the number of objects | K.CC.4, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5 | | | | | | | | | | | |
| Compare numbers | K.CC.6, K.CC.7 | | | | | | | | | | | |

| Number and Operations in Base Ten | | | | | | | | | | | |
|---|--|---|---|---------------------------------|--------------------------------|---------------------|--|--|--|--|--|
| Place Value | | | | | | | | | | | |
| Understand foundations of and generalize about place value | K.NBT.1 | 1.NBT.2, 1.NBT.3, 1.NBT.4, 1.NBT.5, 1.NBT.6 | 2.NBT.1, 2.NBT.1a, 2.NBT.1b, 2.NBT.2, 2.NBT.3, 2.NBT.4, 2.NBT.5, 2.NBT.6, 2.NBT.7, 2.NBT.9 | 3.NBT.1, 3.NBT.2, 3.NBT.3 | 4.NBT.1, 4.NF.6, 4.NF7 | 5.NBT.1, 5.NBT.3 | | | | | |
| Extend counting sequence and read and write whole numbers | | 1.NBT.1 | 2.NBT.1, 2.NBT.1a, 2.NBT.1b, 2.NBT.2, 2.NBT.3 | 3.NBT.1, 3.NBT.2, 3.NBT.3 | 4.NBT.1, 4.NBT.2, 4.NF.6 | 5.NBT.1 | | | | | |
| Compare/order numbers | | 1.NBT.3 | 2.NBT.4 | 3.NBT.1, 3.NBT.2, 3.NBT.3 | 4.NBT.2, 2.NF.2, 4.NF.7 | 5.NBT.3 | | | | | |
| Round numbers | | | | 3.NBT.1 | 4.NBT.3 | 5.NBT.4 | | | | | |
| Compose and decompose numbers | | | 2.NBT.1, 2.NBT.3 | 3.NBT.3 | 4.NBT.5 | 5.NBT.1 | | | | | |
| Addition and Subtraction | | | | | ' | | | | | | |
| Fluently add and subtract basic facts | K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5 | 1.NBT.4, 1.NBT.6, 1.OA.5, 1.OA6 | 2.NBT.5, 2.NBT.6, 2.OA.2 | | | | | | | | |
| Fluently add and subtract within 100 | | | 2.NBT.5 | | | | | | | | |
| Add and subtract multiples of 10 | | | 2.NBT.8, 2.NBT.9 | | | | | | | | |
| Fluently add and subtract multi-digit numbers | | | | 3.NBT.2 | 4.NBT.4 | | | | | | |
| Compose and decompose numbers | K.NBT.1, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5 | 1.NBT.2, 1.0A.1,1.0A.2, 1.0A.3, 1.0A,4, 1.0A.6, 1.0A.8 | 2.NBT.1, 2.NBT.3, 2.NBT.7, 2.NBT.8 | 3.NBT.2 | 4.NBT.2 | | | | | | |
| Use mental arithmetic | | 1.0A.6, 1.NBT.5 | 2.NBT.8, 2.OA.2 | 3.0A.8 | 4.NBT.4 | | | | | | |
| Use estimation | | | | 3.0A.8 | 4.NBT.3, 4.OA.3 | | | | | | |
| Use algorithms to add and subtract | | 1.NBT.4, 1.NBT.6 | 2.NBT.5, 2.NBT.6, 2.NBT.7, 2.NBT.9 | 3.NBT.2 | 4.NBT.4 | | | | | | |
| Use and explain strategies based on the relationship between addition and subtraction | | 1.NBT.4, 1.NBT.6, 1.OA.3 | 2.NBT.5, 2.NBT.7, 2.OA.1, 2.OA.2, 2.NBT.9 | 3.NBT.2 | 4.NBT.4 | | | | | | |

| | Number | and Oper | ations in | Base Ten - | — continu | ed | | | |
|--|--------|---|---|---------------------------------------|--------------------------------|---------------------|--|---------|--------|
| Multiplication and Division | | | | | | | | | |
| Use and explain strategies based on place value and properties of operations | | 1.NBT.4, 1.NBT.5 1.NBT.6, 1.OA.3, 1.OA.4 | 2.NBT.5, 2.NBT.6, 2.NBT.7, 2.NBT.9 | 3.NBT.2 | 4.NBT.4, 4.NF.3c | 5.NBT.7 | | | |
| Use odd and even numbers and arrays to gain foundations for multiplication | | | 2.0A.3, 2.0A.4 | 3.0A.3 | | | | | |
| Fluently multiply and divide basic facts | | | | 3.0A.7 | | | | | |
| Compose and decompose numbers | | | | 3.NBT.3 | 4.NBT.5, 4.NBT.6, 4.OA.4 | 5.NBT.5 | | | |
| Use and explain strategies based on the relationship between multiplication and division | | | | 3.0A.6, 3.0A.7 | 4.NBT.5, 4.NBT.6 | 5.NBT.6, 5.NBT.7 | | | |
| Use and explain strategies based on place value and properties of operations | | | | 3.NBT.3, 3.0A.5, 3.0A.7, 3.0A.9 | 4.NBT.5, 4.NBT.6 | 5.NBT.6, 5.NBT.7 | | | |
| Use multiplication to find combinations | | | | 3.0A.3 | | | | | |
| Interpret multiplication equations as comparisons | | | | | 4.0A.1, 4.0A.2 | | | | |
| Interpret remainders | | | | | 4.NBT.6, 4.OA.3 | 5.NBT.6 | | | |
| Estimation | | | | | 4.NBT.3, 4.NBT.6 | 5.NBT.5, 5.NBT.6 | | | |
| Divide and fluently multiply multi-digit numbers using standard algorithm | | | | | 4.NBT.5, 4.NBT.6 | 5.NBT.5, 5.NBT.6 | 6.NS.2 | | |
| Prime factorization | | | | | | 5.NBT.2 | | | |
| Whole Numbers | | | | | | | | | |
| Greatest Common Factor (GCF) | | | | | 4.NF.1 | 5.NF.2 | 6.NS.4 | | |
| Least Common Multiple (LCM) | | | | | 4.NF.1 | 5.NF.2 | 6.NS.4 | | |
| Apply Distributive Property | | | | 3.0A.5, 3.0A.7, 3.0A.9, 3.MD.7c | 4.NBT.5 | 5.NBT.5 | 6.NS.4 | 7.NS.2a | |
| Powers and exponents | | | | | | 5.NBT.2 | 6.EE.1 | | |
| Square roots of perfect squares | | | | | | | | | 8.EE.2 |
| Cube roots of perfect cubes | | | | | | | | | 8.EE.2 |
| Integers | | | | | | | | | |
| Positive and negative numbers | | | | | | | 6.NS.5 | | |
| Opposite signs of numbers | | | | | | | 6.NS.6a | | |
| Graph integers on a number line | | | | | | | 6.NS.6, 6.NS.6a, 6.NS.6c | | |
| Graph integers on a coordinate plane | | | | | | | 6.NS.6, 6.NS.6b, 6.NS.6c, 6.NS.8 | | |
| Order integers | | | | | | | 6.NS.7, 6.NS.7a, 6.NS.7b, 6.NS.7d | | |

| | Number | and Operat | ions in Base Ten | — continued | | | |
|---|--------|------------|------------------|-------------|--------------------------------|--|--------|
| Integers continued | | | | | | | |
| Absolute value | | | | | 6.NS.7, 6.NS.7c, 6.NS.7d | 7.NS.1c | |
| Additive inverses | | | | | | 7.NS.1a, 7.NS.1b | |
| Multiplication of integers | | | | | | 7.NS.2a | |
| Division of integers | | | | | | 7.NS.2b | |
| Properties of integer exponents | | | | | | | 8.EE.1 |
| Rational Numbers | | | | | | | |
| Graph rational numbers on a number line | | | | | 6.NS.6, 6.NS.6a | | |
| Order rational numbers on a number line | | | | | 6.NS.7, 6.NS.7a | | |
| Write, interpret, and explain order of rational numbers | | | | | 6.NS.7b | | |
| Graph rational numbers on a coordinate plane | | | | | 6.NS.6, 6.NS.6c, 6.NS.8 | | |
| Solve real-world problems by graphing points in all four quadrants | | | | | 6.NS.8 | | |
| Add and subtract rational numbers | | | | | | 7.NS.1, 7.NS.1b, 7.NS.1c, 7.NS.1d | |
| Represent addition and subtraction on a number line | | | | | | 7.NS.1, 7.NS.1b | |
| Interpret sums of rational numbers in real-world contexts | | | | | | 7.NS.1b | |
| Understand subtraction as adding the additive inverse | | | | | | 7.NS.1c | |
| Interpret products and quotients of rational numbers in real-world contexts | | | | | | 7.NS.2a, 7.NS.2b | |
| Distance between two rational numbers on a number line | | | | | | 7.NS.1c | |
| Multiply and divide rational numbers | | | | | | 7.NS.2, 7.NS.2a, 7.NS.2b, 7.NS.2c | |
| Concept of rational numbers | | | | | | 7.NS.2b | |
| Convert rational numbers to decimals | | | | | | 7.NS.2d | |
| Terminating and repeating decimals | | | | | | 7.NS.2d | 8.NS.1 |
| Solve real-world problems using operations with rational numbers | | | | | | 7.NS.3 | |
| Complex fractions | | | | | | 7.RP.1, 7.NS.3 | |
| Solve multi-step problems involving rational numbers | | | | | | 7.EE.3 | |
| Convert a decimal expansion which repeats eventually into a rational number | | | | | | | 8.NS.1 |

| | Number | and Opei | ations in | Base Ten - | — continu | ed | | | |
|---|--------|----------|-----------|---|---------------------------------|--|---------|-----------------------------|--------|
| Real Numbers | | | | | | | | | |
| Concept of irrational numbers | | | | | | | | | 8.NS.1 |
| Estimate square roots | | | | | | | | | 8.NS.2 |
| Know √2 is irrational | | | | | | | | | 8.EE.2 |
| Compare the size of irrational numbers | | | | | | | | | 8.NS.2 |
| Approximate location of irrational numbers on a number line | | | | | | | | | 8.NS.2 |
| | | Numb | er and O | perations | | | | | |
| Fractions | | | | • | | | | | |
| Partition shapes and understand fractions as part of a whole | | 1.G.3 | 2.G.3 | 3.NF.1 , 3.G.2 | | | | | |
| Express fractions as a whole number | | | | 3.NF.3c | | | | | |
| Represent fractions on a number line | | | | 3.NF.2, 3.NF.2a, 3.NF.2b, 3NF.3a | 4.NF.6 | 5.NF.2 | 6.NS.6c | 7.NS.1 | |
| Equivalent fractions | | | | 3.NF.3a, 3.NF.3b, 3.NF.3c | 4.NF.1, 4.NF.5 | 5.NF.1 | | | |
| Unit fractions | | | | 3.NF.1, 3.G.2 | 4.NF.3b, 4.NF.4a, 4.NF.4b | 5.NF.7 | | | |
| Compare and order fractions | | | | 3.NF.3d | 4.NF.2 | 5.NF.5a | | | |
| Find factor pairs and multiples | | | | | 4.0A.4 | 5.NBT.2 | | | |
| Prime and composite numbers | | | | | 4.0A.4 | 5.NBT.2 | | | |
| Simplest form | | | | | 4.NF.1, 4.NF.2 | 5.NF.5b | | | |
| Represent mixed numbers and write as improper fractions | | | | | 4.NF.3b | 5.NF.1 | | | |
| Add, subtract, and multiply fractions and mixed numbers | | | | | 4.NF.3c, 4.NF.3d, 4.NF.4 | 5.NF.1, 5.NF.2, 5.NF.4, 5.NF.5, 5.NF.6 | | | |
| Solve word problems involving addition and subtraction of fractions | | | | | 4.NF.3d | 5.NF.2 | | | |
| Solve word problems involving multiplication of fractions | | | | | 4.NF.4c | 5.NF.6 | | | |
| Round fractions | | | | | | 5.NF.2 | | | |
| Estimate sums and differences of fractions | | | | | | 5.NF.2 | | | |
| Estimate products of fractions | | | | | | 5.NF.4a, 5.NF.6 | | | |
| Interpret multiplication with fractions as scaling | | | | | | 5.NF.5 | | | |
| Interpret fractions as division of numerator by denominator | | | | | | 5.NF.3 | | | |
| Divide fractions and mixed numbers | | | | | | 5.NF.7 | 6.NS.1 | 7.NS.2c | |
| Solve word problems involving division of fractions | | | | | | 5.NF.7c | 6.NS.1 | 7.NS.2c 7.NS.3 7.EE.3 | |

| | Nι | ımber an | d Operatio | ons — con | tinued | | | | |
|---|----|----------|------------|-----------|----------------|----------------------|----------------|---------|--------|
| Decimals | | | | | | | | | |
| Understand decimal notation | | | | | 4.NF.6 | 5.NBT.3a | | | |
| Write fractions as decimals | | | | | 4.NF.5, 4.NF.6 | 5.NF.5b, 5.NBT.3a | | | |
| Compare and order decimals | | | | | 4.NF.6, 4.NF.7 | 5.NF.5b, 5.NBT.3b | | | |
| Add decimals | | | | | 4.NF.5, 4.NF.6 | 5.NBT.7 | 6.NS.3 | | |
| Subtract/Multiply/Divide decimals to hundredths | | | | | | 5.NBT.7 | | | |
| Estimate sums and differences of decimals by rounding | | | | | | 5.NBT.4 | | | |
| Represent decimals on a number line | | | | | 4.NF.6, 4.NF.7 | 5.NBT.3b | 6.NS.6c | | |
| Subtract/Multiply/Divide multi-digit decimals | | | | | | | 6.NS.2, 6.NS.3 | | |
| Convert rational numbers to decimals | | | | | | | | 7.NS.2d | |
| Terminating and repeating decimals | | | | | | | | 7.NS.2d | 8.NS.1 |
| Convert a decimal expansion which repeats eventually into a rational number | | | | | | | | | 8.NS.1 |
| Non-repeating decimals/irrational numbers | | | | | | | | | 8.NS.1 |
| Percent | | | | | | | | | |
| Percent as rate per 100 | | | | | | | 6.RP.3c | | |
| Find a percent of a quantity | | | | | | | 6.RP.3c | | |
| Solve percent problems for the whole | | | | | | | 6.RP.3c | | |
| Percent proportion | | | | | | | | 7.RP.3 | |
| Percent equation | | | | | | | | 7.RP.3 | |
| Simple interest | | | | | | | | 7.RP.3 | |
| Sales tax and gratuities | | | | | | | | 7.RP.3 | |
| Markups and markdowns | | | | | | | | 7.RP.3 | |
| Commissions and fees | | | | | | | | 7.RP.3 | |
| Percent increase and decrease | | | | | | | | 7.RP.3 | |
| Percent error | | | | | | | | 7.RP.3 | |

| | Rat | ios and P | roportion | al Relatio | nships | | | |
|--|-----|-----------|-----------|------------|--------|----------------|---------|--|
| Ratios and Rates | | | | | | | | |
| Understand the concept of a ratio | | | | | | 6.RP.1 | | |
| Use ratio and rate language | | | | | | 6.RP.1, 6.RP.2 | | |
| Understand the concept of a unit rate | | | | | | 6.RP.2 | | |
| Solve real-world problems using ratios and rates | | | | | | 6.RP.3 | 7.RP.3 | |
| Tables of equivalent ratios | | | | | | 6.RP.3a | 7.RP.2a | |
| Graph ratio tables | | | | | | 6.RP.3a | 7.RP.2a | |
| Unit pricing | | | | | | 6.RP.3b | | |

| R | Ratios and Pr | oportiona | l Relationsh | ips — contin | ued | | | |
|--|---------------|-----------|--------------|---------------------|-----|---------|---------------------|--------|
| Ratios and Rates continued | | | | | | | | |
| Constant speed | | | | | | 6.RP.3b | | |
| Use ratios to convert measurements | | | | | | 6.RP.3d | 7.RP.3 | |
| Unit rates involving fractions (complex fractions) | | | | | | | 7.RP.1 | |
| Ratio and probability | | | | | | | 7.SP.8a | |
| Interpret unit rate as the slope | | | | | | | | 8.EE.5 |
| Rate of change of a linear function | | | | | | | | 8.F.4 |
| Proportional Relationships | | | | | | | | |
| Recognize and represent proportional relationships | | | | | | | 7.RP.2 | |
| Identify proportional relationships using tables or graphs | | | | | | | 7.RP.2a | |
| Constant of proportionality (unit rate) | | | | | | | 7.RP.2b, 7.RP.2d | |
| Represent proportional relationships by equations | | | | | | | 7.RP.2c | |
| Explain what a point on the graph of a proportional relationship means | | | | | | | 7.RP.2d | |
| Solve proportions | | | | | | | 7.RP.3 | |
| Use proportional relationships to solve multi-step ratio problems | | | | | | | 7.RP.3 | |
| Graph proportional relationships | | | | | | | 7.RP.2a | 8.EE.5 |
| Compare two different proportional relationships | | | | | | | | 8.EE.5 |
| Scale drawings | | | | | | | 7.G.1 | |

| Algebra and Functions | | | | | | | | | | | |
|---|--|---|---------------------------|--|---|--------------------------------|--------|--|--|--|--|
| Algebraic Representation | | | | | | | | | | | |
| Compose and decompose numbers | K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5 | 1.0A.1, 1.0A.2, 1.0A.3, 1.0A.4, 1.0A.5, 1.0A.6, 1.0A.8 | 2.0A.1 | 3.0A.5, 3.0A.7 | 4.NBT.5, 4.NBT.6, 4.NF.3b | 5.NBT.6 | | | | | |
| Identify/Generate/Explain patterns | K.CC.4, K.CC.4a | 1.NBT.5 | 2.NBT.2 | 3.0A.9, 3.NBT.3 | 4.NBT.1, 4.NBT.4, 4.OA.5 | 5.0A.3, 5.NBT.1, 5.NBT.2 | | | | | |
| Solve addition and subtraction word problems | K. OA.2, K. NBT.1 | 1.0A.1, 1.0A.2 | 2.0A.1 | 3.0A.8, 3.MD.1 | 4.0A.3, 4.MD.2, 4.NF.3d | 5.NF.2 | | | | | |
| Assess the reasonableness of answers by rounding and estimating | | | | 3.0A.8 | 4.0A.3, 4.NBT.3, 4.NBT.6 | 5.NBT.5, 5.NBT.6 | | | | | |
| Determine the unknown/variable | | 1.0A.1, 1.0A.2, 1.0A.4, 1.0A.8 | 2.0A.1 | 3.0A.3, 3.0A.4, 3.0A.6, 3.0A.8 | 4.0A.2, 4.0A.3 | 5.NBT.6 | 6.EE.6 | | | | |
| Write and solve number sentences/ equations | K.OA.1, K.OA.3, K.OA.4, K.NBT.1 | 1.0A.1, 1.0A.2, 1.0A.7, 1.0A.8 | 2.0A.1, 2.0A.3, 2.0A.4 | 3.0A.3, 3.0A.4, 3.0A.5, 3.0A.7, 3.0A.8 | 4.0A.1, 4.0A.2, 4.0A.3, 4.NF.3d, 4.NF.4c, 4.NBT.5, 4.NBT.6 | 5.NBT.6 | | | | | |

| сопсерь экш | | | | | | | | | |
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| | Α | lgebra an | d Functio | ns — cont | inued | | | | |
| Algebraic Representation continued | d | | | | | | | | |
| Determine if addition or subtraction equations are true or false. | | 1.0A.7 | | | | | | | |
| Solve word problems that call for addition of three numbers | | 1.0A.2 | | | | | | | |
| Order of operations | | | | 3.0A.8 | 4.0A.3 | 5.0A.1 | 6.EE.2c | | |
| Write and solve multiplication and division word problems | | | | 3.0A.3, 3.0A.8 | 4.0A.2, 4.0A.3, 4.NF.4c, 4.MD.2, 4.MD.3 | 5.NBT.5, 5.NF.6, 5.NF.7c | | | |
| Write and evaluate expressions involving variables | | | | 3.0A.5, 3.0A.8 | 4.0A.3 | 5.0A.1, 5.0A.2 | 6.EE.2, 6.EE.2a, 6.EE.2c, 6.EE.6 | | |
| Identify and generate non-numeric patterns | | | | | 4.0A.5 | | | | |
| Apply properties of operations | | 1.0A.3, 1.NBT.2 | 2.NBT.5, 2.NBT.6, 2.NBT.7, 2.NBT.9 | 3.NBT.3, 3.0A.5, 3.0A.7, 3.0A.9 | 4.0A.5, 4.NBT.5 | 5.NBT.5 | 6.EE.3 | 7.EE.1, 7.EE.2 | |
| Parts of an expression | | | | | | | 6.EE.2b | | |
| Identify equivalent expressions | | | | | | | 6.EE.4 | | |
| Properties of integer exponents | | | | | | | | | 8.EE.1 |
| Use scientific notation to estimate quantities | | | | | | | | | 8.EE.3 |
| Perform operations using scientific notation | | | | | | | | | 8.EE.4 |
| Choose units of appropriate size for very large or very small quantities | | | | | | | | | 8.EE.4 |
| Scientific notation and technology | | | | | | | | | 8.EE.4 |
| Equations and Inequalities | | | | | | | | | |
| Identify values that make an equation or inequality true | | | | | | | 6.EE.5 | | |
| Use variables and expressions to solve real-world problems | | | | | | | 6.EE.6 | 7.EE.4 | |
| Write and solve equations of the form $x + p = q$ and $px = q$ | | | | | | | 6.EE.7 | | |
| Inequalities of the form x > c or x < c | | | | | | | 6.EE.8 | | |
| Graph inequalities on a number line | | | | | | | 6.EE.8 | 7.EE.4b | |
| Solve equations of the form $px + q = r$ and $p(x + q) = r$ | | | | | | | | 7.EE.4, 7.EE.4a | |
| Compare an algebraic solution to an arithmetic solution | | | | | | | | 7.EE.4a | |
| Solve multi-step problems involving rational numbers | | | | | | | | 7.EE.3 | 8.EE.7.8 |
| Solve inequalities of the form $px + q < r$ or $px + q < r$ | | | | | | | | 7.EE.4, 7.EE.4b | |
| Solve linear equations with one, infinitely many, or no solutions | | | | | | | | | 8.EE.7, 8.EE.7a |
| Solve linear equations with rational coefficients | | | | | | | | 7.EE.4a | 8.EE.7, 8.EE.7b |

| Concept/Skill | Grade K | Grade 1 | Grade 2 | Grade 3 | Grade 4 | Grade 5 | Course 1 | Course 2 | Course 3 |
|---|-------------------|------------|------------|----------|---------|-------------------------|----------|----------|-----------------|
| | A | Algebra ar | nd Functio | ns — con | tinued | | | | |
| Equations and Inequalities continue | ed | | | | | | | | |
| Solve equations of the form $x^2 = p$ and $x^3 = p$ | | | | | | | | | 8.EE.2 |
| Equations in Two Variables | | | | | | | | | |
| Dependent and independent variables | | | | | | | 6.EE.9 | | |
| Write equations using two variables | | | | | | | 6.EE.9 | | |
| Form ordered pairs | | | | | | 5.0A.3, 5.G.1, 5.G.2 | | | |
| Tables of ordered pairs | | | | | | 5.0A.3, 5.G.1, 5.G.2 | 6.EE.9 | | |
| Graphs of ordered pairs | | | | | | 5.0A.3, 5.G.1, 5.G.2 | 6.EE.9 | | |
| Analyze patterns and relationships | | | | | | 5.0A.3, 5.NBT.2 | 6.EE.9 | | |
| Represent proportional relationships by equations | | | | | | | | 7.RP.2c | |
| Use similar triangles to explain slope of a line | | | | | | | | | 8.EE.6 |
| Derive the equations y = mx and y = mx + b | | | | | | | | | 8.EE.6 |
| Solve systems of linear equations by graphing | | | | | | | | | 8.EE.8, 8.EE.8a |
| Solve systems of linear equations algebraically | | | | | | | | | 8.EE.8, 8.EE.8b |
| Solve problems leading to two linear equations in two variables | | | | | | | | | 8.EE.8, 8.EE.8c |
| | | | | | | | | | |
| | | | Functio | ns | | | | | |
| Relations and functions | | | | | | | | | 8.F.1 |
| Understand functions | | | | | | | | | 8.F.1 |
| Graph of a function | | | | | | | | | 8.F.1 |
| Compare properties of functions | | | | | | | | | 8.F.2 |
| Identify non-linear functions | | | | | | | | | 8.F.3 |
| Linear functions in y = mx + b form | | | | | | | | | 8.F.3 |
| Construct a function | | | | | | | | | 8.F.4 |
| Rate of change and initial value of a function | | | | | | | | | 8.F.4 |
| Qualitative graphs | | | | | | | | | 8.F.5 |
| | | | | | | | | | |
| | | | Measurer | ment | | | | | |
| Measurement | | | | | | | | | |
| Describe and compare measurable attributes of objects | K.MD.1, K.MD.2 | | | | | | | | |

| | Measu | rement – | – continuea | 1 | | | | |
|--|--------------|---|--|------------------------------|-------------------|-------|-------|--|
| Linear Measurement | | | | | | | | |
| Measure and order by comparing indirectly and by iterating using nonstandard units of length | 1MD.1, 1MD.2 | | | | | | | |
| Measure length using appropriate tools | | 2.MD.1 | | | | | | |
| Use customary units of length to estimate, measure, and compare | | 2.MD.1, 2.MD.2, 2.MD.3, 2.MD.4 | | | | | | |
| Use addition and subtraction to solve word problems of length | | 2.MD.5, | | 4.MD.2, 4.MD.3, 4.MD.4 | 5.MD.1, 5.MD.2 | | | |
| Measure to half and quarter of an inch | | | 3.MD.4 | 4.MD.2 | 5.MD.2 | | | |
| Measure to eighth of an inch | | | | 4.MD.2 | 5.MD.2 | | | |
| Estimate using customary and metric units of length | | | | 4.MD.1, 4.MD.2 | | | | |
| Measure metric units of length | | | | 4.MD.1 | 5.MD.1 | | | |
| Know measurement equivalencies within a measurement system | | | | 4.MD.1 | 5.MD.1 | | | |
| Convert customary and metric units of length | | | | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Perimeter and Area | | | | | | | | |
| Measure perimeter | | | 3.MD.8 | 4.MD.3 | | | | |
| Apply the formula for perimeter | | | | 4.MD.3 | | | | |
| Use concepts of area to measure area | | | 3.MD.5, 3.MD.5a, 3.MD.6b 3.MD.6, 3.MD.7, 3.MD.7a, 3.MD.7b, 3.MD.7c, 3.MD.7d, 3.MD.8 | 4.MD.3 | 5.NF.4b | | | |
| Apply the formula for area | | | 3.MD.7, 3.MD.7b | 4.MD.3 | 5.NF.4b | | | |
| Relate area and perimeter | | | 3.MD.5, 3.MD.7, 3.MD.8 | 4.MD.3 | | | | |
| Find area of composite figures by decomposing | | | 3.MD.5, 3.MD.7, 3.MD.7b, 3.MD.7d | | | 6.G.1 | 7.G.6 | |
| Relate area to multiplication and addition | | | 3.MD.7, 3.MD.7a, 3.MD.7b, 3.MD.7c, 3.MD.7d | 4.MD.3 | 5.NF.4b | | | |
| Solve problems involving same perimeter but different area and vice versa | | | 3.MD.8 | 4.MD.3 | | | | |
| Liquid Volume | | | | | | | | |
| Estimate metric units of capacity | | | 3.MD.2 | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Measure metric units of capacity | | | 3.MD.2 | | 5.MD.1 | | | |

| Concept/Skill | Grade K | Grade 1 | Grade 2 | Grade 3 | Grade 4 | Grade 5 | Course 1 | Course 2 | Course 3 |
|--|---------|---------|-----------|------------|------------------------------|-------------------|----------|----------|----------|
| | | Meas | urement – | – continue | d | | | | |
| Liquid Volume continued | | | | | | | | | |
| Solve word problems involving liquid volumes | | | | 3.MD.2 | 4.MD.1, 4.MD.2, 4.MD.4 | 5.MD.1, 5.MD.2 | | | |
| Convert metric units of capacity | | | | | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Estimate customary units of capacity | | | | | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Measure customary units of capacity | | | | | | 5.MD.1 | | | |
| Convert customary units of capacity | | | | | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Weight and Mass | | | | | | | | | |
| Estimate metric units of mass | | | | 3.MD.2 | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Measure metric units of mass | | | | 3.MD.2 | | 5.MD.1 | | | |
| Solve word problems involving mass | | | | 3.MD.2 | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Estimate customary units of weight | | | | | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Measure customary units of weight | | | | | | 5.MD.1 | | | |
| Convert customary units of weight | | | | | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Convert metric units of mass | | | | | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Time | | | ' | | | | | | |
| Tell and write time to the hour and half hour | | 1.MD.3 | 2.MD.7 | | | | | | |
| Tell and write time to the quarter hour and 5-minute intervals | | | 2.MD.7 | | | | | | |
| A.M./P.M. | | | 2.MD.7 | | | | | | |
| Tell and write time to the minute | | | | 3.MD.1 | | | | | |
| Measure time intervals in minutes | | | | 3.MD.1 | 4.MD.1, 4.MD.2 | | | | |
| Solve word problems involving time in minutes | | | | 3.MD.1 | 4.MD.1, 4.MD.2 | | | | |
| Convert units of time | | | | | 4.MD.1, 4.MD.2 | 5.MD.1 | | | |
| Solve measurement word problems using the four operations | | | | | 4.MD.2, 4.MD.3 | 5.MD.1 | | | |
| Money | | | | | | | | | |
| Recognize and count using coins | | 1.NBT.1 | 2.MD.8 | | | | | | |
| Sort and compare using coins and bills | | | 2.MD.8 | | | | | | |
| Solve word problems involving money | | | 2.MD.8 | | | | | | |

| Statistics and Probablity | | | | | | | | | |
|--|--------|--|--|--|--|--|--|--|--|
| Data Sets and Populations | | | | | | | | | |
| Classify objects by size, shape, and count | K.MD.3 | | | | | | | | |

| | Statistics ar | d Probab | lity — con | ntinued | | | | |
|--|---------------|--------------------|-------------------|---------|--------|--------------------------------------|----------------|--------|
| Data Sets and Populations continued | | | • | | | | | |
| Organize, represent, and interpret data | 1.MD.4 | 2.MD.9, 2.MD.10 | 3.MD.3, 3.MD.4 | 4.MD.4 | 5.MD.2 | | | |
| Generate data in whole units of linear measurement | | 2.MD.9 | | | | | | |
| Generate data in fractions of an inch | | | 3.MD.4 | 4.MD.4 | 5.MD.2 | | | |
| Recognize statistical questions | | | | | | 6.SP.1 | | |
| Distribution of a set of data | | | | | | 6.SP.2 | | |
| Statistics and population samples | | | | | | | 7.SP.1 | |
| Random sampling of populations | | | | | | | 7.SP.1 | |
| Draw inferences from random samples | | | | | | | 7.SP.2 | |
| Multiple samples of data | | | | | | | 7.SP.2 | |
| Visual overlap of data distributions | | | | | | | 7.SP.3 | |
| Comparative inferences between two populations | | | | | | | 7.SP.4 | |
| Measures of Center and Variability | | | | | | | | |
| Measures of center | | | | | | 6.SP.3 | 7.SP.3, 7.SP.4 | |
| Median | | | | | | 6.SP.5c | | |
| Mean | | | | | | 6.SP.5c | | |
| Measures of variation | | | | | | 6.SP.3 | 7.SP.3, 7.SP.4 | |
| Range | | | | | | 6.SP.2, 6.SP.3 | | |
| Outliers | | | | | | 6.SP.5c | | |
| Mean absolute deviation | | | | | | 6.SP.5c | | |
| Shape of the data distribution | | | | | | 6.SP.5d | | |
| Summarize and describe numerical data sets | | | | | | 6.SP.5, 6.SP.5a, 6.SP.5b, 6.SP.5c | | |
| Represent Data, Statistical Displays | | | | | | | | |
| Draw scaled picture graphs and scaled bar graphs | | | 3.MD 3 | | | | | |
| Solve problems involving bar graph analysis | | 2.MD.10 | 3.MD.3 | | | | | |
| Make line plots using generated linear measurement data | | 2.MD.9 | 3.MD.4 | 4.MD.4 | 5.MD.2 | | | |
| Solve addition and subtraction of fractions problems involving line plot analysis | | | | 4.MD.4 | 5.MD.2 | | | |
| Solve multiplication and division of fractions problems involving line plot analysis | | | | | 5.MD.2 | | | |
| Oot plots | | | | | | 6.SP.4 | 7.SP.3, 7.SP.4 | |
| Histograms | | | | | | 6.SP.4 | | |
| Box plots | | | | | | 6.SP.4 | 7.SP.4 | |
| Scatter plots | | | | | | | | 8.SP.1 |
| Clustering and outliers | | | | | | | | 8.SP.1 |
| Positive and negative association | | | | | | | | 8.SP.1 |

| | Statistics and Pr | obablity — con | tinued | | |
|--|-------------------|-----------------------|--------|------------------------------------|--------|
| Represent Data, Statistical Displays c | ontinued | | | | |
| Linear and nonlinear association | | | | | 8.SP.1 |
| Line of best fit | | | | | 8.SP.2 |
| Use the equation of a linear model to solve problems | | | | | 8.SP.3 |
| Two-way tables | | | | | 8.SP.4 |
| Probability | | | | | |
| Probability and chance events | | | | 7.SP.5 | |
| Likely and unlikely events | | | | 7.SP.5 | |
| Relative frequency | | | | 7.SP.6 | |
| Develop a probability model | | | | 7.SP.7, 7.SP.7a, 7.SP.7b | |
| Compare theoretical and experimental probability | | | | 7.SP.7 | |
| Compound events | | | | 7.SP.8, 7.SP.8a | |
| Sample spaces | | | | 7.SP.8, 7.SP.8b | |
| Number of outcomes | | | | 7.SP.8a | |
| Permutations | | | | 7.SP.8a | |
| Simulations | | | | 7.SP.6, 7.SP.7, 7.SP.8, 7.SP.8c | |
| Fair and unfair games | | | | 7.SP.7b | |

| | | | Geomet | ry | | | | |
|---|-------------------------------|-------|--------------|-------|--------------|-------|--|--|
| Two- and Three-Dimensional Shap | es and Fig | gures | | | | | | |
| Describe shapes in the environment | K.G.1 | | | | | | | |
| Position of shapes | K.G.1 | | | | | | | |
| Compose two-dimensional shapes | K.G.6 | 1.G.2 | | | | | | |
| Decompose two-dimensional shapes | | 1.G.2 | 2.G.2, 2.G.3 | 3.G.2 | | | | |
| Analyze and compare two-dimensional shapes | K.G.4 | 1.G.1 | 2.G.1 | 3.G.1 | | | | |
| Model, build, and draw two- dimensional shapes | K.G.5 | 1.G.1 | 2.G.1 | 3.G.1 | | | | |
| Identify, name, and describe two- dimensional shapes | K.G.1, K.G.2, K.G.3, K.G.4 | 1.G.1 | 2.G.1 | 3.G.1 | 4.G.1, 4.G.2 | | | |
| Partition two-dimensional shapes into equal shares/areas | | 1.G.3 | 2.G.2, 2.G.3 | 3.G2 | | | | |
| Identify equal shares of two- dimensional shapes | | 1.G.3 | 2.G.3 | 3.G.2 | | | | |
| Identify, name, and describe three- dimensional shapes | K.G.1, K.G.2, K.G.3, K.G.4 | 1.G.1 | 2.G.1 | | | | | |
| Analyze and compare three- dimensional shapes | K.G.4 | 1.G.1 | 2.G.1 | | | | | |
| Classify two-dimensional figures by their properties | | | | | 4.G.1, 4.G.2 | 5.G.4 | | |

| | | Geom | netry — c | ontinued | | | | | |
|---|------------|------|-----------|----------|--------------------------|--------------|-------|-------|-------|
| Two- and Three-Dimensional Shape | es and Fig | | | | | | | | |
| Describe and classify polygons by their attributes | | | | 3.G.1 | | | | | |
| Identify, describe, and classify triangles and quadrilaterals by their attributes | | | | 3.G.1 | 4.G.1, 4.G.2 | 5.G.3, 5.G.4 | | | |
| Measure sides and angles of triangles and quadrilaterals | | | | | 4.MD.6, 4.G.2 | 5.G.3, 5.G.4 | | | |
| Draw and identify points, lines, line segments, rays, and angles in two-dimensional figures | | | | | 4.G.1 | | | | |
| Identify lines of symmetry/symmetric figures | | | | | 4.G.3 | | | | |
| Draw polygons on the coordinate plane | | | | | | | 6.G.3 | | |
| Use coordinates to find the length of sides of polygons | | | | | | | 6.G.3 | | |
| Construct triangles from three measures of angles or sides | | | | | | | | 7.G.2 | |
| Plane sections of three-dimensional figures | | | | | | | | 7.G.3 | |
| Circles and circumference | | | | | | | | 7.G.4 | |
| Angle Measure and Relationship | | | | | | | | | |
| Explore angles of two-dimensional shapes | | | | 3.G.1 | 4.G.1, 4.MD.5 | | | | |
| Classify angles by their attributes | | | | | 4.G.1, 4.MD.5 | | | | |
| Measure and draw angles | | | | | 4.G.1, 4.MD.5, 4MD. 6 | | | | |
| Recognize angle measures as additive | | | | | 4.MD.7 | | | | |
| Solve addition and subtraction problems to determine measures of unknown angles | | | | | 4.G.1, 4.MD.7 | | | | |
| Supplementary angles | | | | | | | | 7.G.5 | |
| Complementary angles | | | | | | | | 7.G.5 | |
| Vertical angles | | | | | | | | 7.G.5 | |
| Adjacent angles | | | | | | | | 7.G.5 | |
| Sum of angles in a triangle | | | | | | | | | 8.G.5 |
| Exterior angle of a triangle | | | | | | | | | 8.G.5 |
| Parallel lines cut by a transversal | | | | | | | | | 8.G.5 |
| Angle-angle criterion for similar triangles | | | | | | | | | 8.G.5 |
| Area and Surface Area | | | | | | | | | |
| Area of triangles | | | | | | | 6.G.1 | | |
| Area of parallelograms | | | | | | | 6.G.1 | | |
| Area of trapezoids | | | | | | | 6.G.1 | | |
| Area of composite figures | | | | | | | 6.G.1 | 7.G.6 | |
| Area of a circle | | | | | | | | 7.G.4 | |